REMARKS

Claims 1-3, 11-14, 31-33, 41-44, 58-59, 61-62, 72-78, and 80-83 are all the claims presently undergoing examination in this application. By this amendment, various claims are amended. The amendments introduce no new matter.

It is noted that the claim amendments herein, if any, are made only to more clearly and completely define the invention and to assure grammatical and idiomatic English and improved form under United States practice, and are not made to distinguish the invention over the prior art, or for any statutory requirements of patentability. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claim 77 stands rejected under 35 USC §101. The claim is amended in accord with the Examiner's suggestions to obviate this rejection. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claim 77 under 35 USC §101.

Claims 31-33, 41-44, 77, and 82 stand rejected under 35 USC §101. The claims are amended in accord with the Examiner's suggestions to obviate this rejection. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of claims 31-33, 41-44, 77, and 82.

Claims 14, 62, and 78 stand rejected under 35 U.S.C. §102(e) over Higashiyama (US Pat. App. Pub. No. 2001/0025318). Claim 76 stands rejected under 35 U.S.C. §102(e) over Miller, et al. (US Pat. App. Pub. No. 2004/0027995). Claims 74-75 stand rejected under 35 U.S.C. §102(e) over Shah-Heydari (US 7,203,743). Claim 77 stands rejected under 35 U.S.C. §102(e) over Larsson, et al. (US Pat. App. Pub. No. 2003/0161268). Claims 1-2, 31-32, 58, 72, and 80-83 stand rejected under 35 U.S.C. §103(a) over Miller in view of Seaman

(US 6,934,263). Claim 44 stands rejected under 35 U.S.C. §103(a) over Higashiymama Claims 3, 11-13, 33, 41-43, 59, 61, 73, and 77 stand rejected under 35 U.S.C. §103(a) over Miller in view of Seaman, and further in view of Sistanizadeh, et al. (US 6,963,575) ad Larsson.

These rejections are respectfully traversed in the following discussion.

THE CLAIMED INVENTION

The claimed invention, as exemplarily described in the embodiment of independent claim 1, relates to a node in a network. The node configures a spanning tree over a network to which a plurality of nodes are connected. The configuration includes generating a new spanning tree and switching the spanning tree in use to the new spanning tree.

The new spanning tree is generated after a network configuration change. While the new spanning tree is generated, the node continues to operate the spanning tree that existed before the configuration change. The node switches the spanning tree to be used for forwarding to the new spanning tree after the new spanning tree has become stable.

In a conventional network node, this type of spanning tree has been used to prevent data from circulating permanently in a network arranged in the form of a loop (ring).

For example, a control technique referred to as a spanning tree is known, in which, in order to prevent data from circulating permanently in a network arranged in the form of a loop (ring), a logically tree-like topology is formed by exchanging control information referred to as Bridge Protocol Data Unit (BPDU) between nodes, and logically disabling a portion of the network which is physically loop-like. This is assumed as conventional technology 1. Moreover, a control technique referred to as a high-speed spanning tree is

known, which accelerates tree creation with the conventional technology 1 by extending a method to exchange the control information, and rapidly sets up a detour path in the event of a failure by presetting the detour path. This is assumed as conventional technology 2. However, various problems existed with the conventional technologies mentioned above.

First, there was the problem that, due to congestion, delayed arrival and loss of frames occurred. With the conventional technology 1, since the spanning tree was stopped and reconstructed from the beginning at the time of addition/remove of nodes and links that belong to the spanning tree, due to the fact that the entire network was stopped for an extended time during reconstruction and congestion occurred, such that sometimes arrival of frames was delayed or frames were lost. With the conventional technology 2, since the spanning tree was reconstructed gradually while forwarding of a data frame was stopped locally at the time of addition/remove of nodes and links that belong to the spanning tree, a portion of the network was stopped and congested during reconstruction, such that sometimes arrival of frames was delayed or frames were lost.

Second, there was the problem that the network stopped at the time of reconfiguration of the spanning tree, such as addition/remove of nodes that belong to the spanning tree. With the conventional technology 1, since the spanning tree was stopped and reconstructed from the beginning at the time of addition/remove of nodes that belong to the spanning tree, sometimes the entire network stopped for a long time during reconstruction. With the conventional technology 2, since the spanning tree was reconstructed gradually while forwarding of data frame was stopped locally at the time of addition/remove of nodes that belong to the spanning tree, sometimes a portion of the network was stopped during reconstruction.

Third, there was the problem that the traffic load could not be distributed. With the conventional technologies 1 and 2, since the cost was calculated using link capacity and used to select a path at the time of spanning tree construction, it was impossible to change the path for dynamic load distribution according to the traffic.

Fourth, there was the problem that due to reconfiguration of the spanning tree, the network stopped when attempting load distribution. With the conventional technology 1, when attempting to vary the cost dynamically according to the traffic status, the spanning tree was stopped temporarily and reconstructed to change the path, such that sometimes the entire network stopped for an extended time during reconstruction. With the conventional technology 2, when attempting to vary the cost dynamically according to the traffic status, a portion of the spanning tree was reconstructed gradually to change the path while forwarding of the data frame was stopped locally, such that sometimes a portion of the network stopped during reconstruction.

Fifth, there was the problem that the path with the minimum cost to a destination was not always selected. With the conventional technologies 1 and 2, since only one system of spanning tree was set up on the network and only one root node was defined on the network by a priority value and a MAC address, which were preset for each node, to create a single tree, when nodes located at the ends of the tree communicated with each other, sometimes, even if a different, shortest path existed, it was blocked and a lengthy path was taken.

Sixth, there was the problem that the load concentrated in the vicinity of the root node while the link utilization rate was low. With the conventional technologies 1 and 2, since only one system of spanning tree was set up on the network and only one root node was defined on the network by a priority value and a MAC address, which were preset for each

node, to create a single tree, the links not used even though they are located at the ends of the tree appeared, reducing the link utilization rate. On the contrary, sometimes the traffic concentrated in the vicinity of the root node, increasing the possibility of occurrence of congestion.

Seventh, there was the problem that tree construction in the event of a root node failure took time, the network being stopped during that period. With the conventional technology 1, since only one system of spanning tree was set up on the network and there was only one root node, if a failure occurred at the root node, the spanning tree was stopped and reconstructed from the beginning, such that sometimes the entire network was stopped for an extended time during reconstruction. With the conventional technology 2, if a failure occurred at the root node, the spanning tree was reconstructed gradually while forwarding of the data frame was stopped locally, such that sometimes a portion of the network was stopped during reconstruction.

Eighth, there was the problem that in the section using IEEE 802.1D, switching of the route was slow in the event of a failure, also taking a long time to reconfigure the spanning tree. This is because, with the conventional technology 1, it sometimes took several tens of seconds until data could be exchanged at the time of construction of the tree.

Ninth, with the conventional technologies 1 and 2, since there was only a single tree, the traffic concentrated and congested in the vicinity of the root node, such that sometimes arrival of frames was delayed or frames were lost.

The present invention, on the other hand, provides a network system, a spanning tree configuration method, a spanning tree configuration node, and a spanning tree configuration program, having multiple advantages over the prior art. The present invention is capable of

lowering the probability of occurrence of congestion and reducing the frequency with which delayed arrival or loss of frames occurs due to congestion. The present invention is capable of reconfiguring a spanning tree, such as performing addition/remove of a node that belongs to the spanning tree, without stopping the network. The present invention is capable of distributing the traffic load. The present invention is capable of distributing the load without stopping the network for spanning tree reconfiguration that accompanies a path change. In the present invention, a path with the minimum cost to a destination is selected. The present invention is capable of increasing the utilization ratio of a link, and distributing the load without concentrating the load in the vicinity of the root node. The present invention is capable of circumventing a network halt due to a root node failure. The present invention is capable of preventing the spanning tree from being set up by passing through the IEEE802.1D-using section, speeding up switching and route changes in the event of a failure, and reducing the possibilities of occurrence of congestion and loss of a frame.

THE PRIOR ART REJECTIONS

Applicant maintains the arguments of the Amendment filed July 14, 2008. Some of those arguments are repeated below for the convenience of the Examiner.

The Miller Reference

Claim 76 stands rejected under 35 U.S.C. §102(e) over Miller. Claims 1-2, 31-32, 58, 72, and 80-83 stand rejected under 35 U.S.C. §103(a) over Miller in view of Seaman. Claims 3, 11-13, 33, 41, 59, 61, 73, and 77 stand rejected under 35 U.S.C. §103(a) over Miller in view of Seaman, and further in view of Sistanizadeh and Larsson. Applicant respectfully

traverses these rejections.

The Examiner alleges that certain features of the claimed invention are disclosed by Miller. Applicant respectfully traverses these rejections. Applicant submits that there are features of the claimed invention which are neither disclosed nor suggested by Miller.

Miller fails to disclose or suggest at least "A node that configures a spanning tree over a network to which a plurality of nodes are connected, comprising: generating a new spanning tree after a network configuration change <u>while continuing to operate only the spanning tree that existed before the configuration change</u>, and switching the spanning tree to be used for forwarding to said new spanning tree <u>only after said new spanning tree has been stable</u>," as recited in independent claim 1. Claims 2-3, 11-13, 31-33, 41, 58-59, 61, 72-73, 77, 80-81, and 83 recite similar features, and Applicant traverses their rejections on substantially similar basis.

The Examiner alleges that Miller discloses certain features of claims 1-3, 11-13, 31-33, 41, 58-59, 61, 72-73, 77, 80-81, and 83 in paragraph [0019].

However, the cited reference discloses only, "*The present invention advantageously provides for dynamic reconfiguration of a system. That is, the reconfiguration is accomplished without shutting down the network. In particular, it is not necessary to quiesce (i.e., block senders of messages from introducing new messages), while the reconfiguration is taking place. The execution of a reconfiguration is not directly visible to either publishers or subscribers. The publishers and subscribers continue to publish and receive messages as if no reconfiguration is taking place or has taken place.*" Miller, para. [0019].

The Examiner admits that, "*Miller does not disclose stabilizing first the new spanning tree to be used for forwarding.*" Office Action, p. 4.

However, the Examiner fails to allege that any reference discloses or suggests the features recited in the claims. In particular, the Examiner fails to allege that any reference teaches or suggest the features "generating a new spanning tree after a network configuration change while continuing to operate only the spanning tree that existed before the configuration change" and "switching the spanning tree to be used for forwarding to said new spanning tree only after said new spanning tree has been stable." Independent claims 31, 58, 72, and 80 recite similar features. Applicant traverses the rejections of claims 2, 31-32, 58, 72, and 80-83 on substantially similar basis.

The Examiner relies on Seaman to overcome deficiencies of Miller with regard to claims 1-3, 11-13, 31-33, 41, 58-59, 61, 72-73, 77, 80-81, and 83.

However, the Examiner alleges only that, "*Miller does not disclose stabilizing first the new spanning tree to be used for forwarding. Seaman teaches that frame is forwarding through any bridge when spanning tree information has been completely distributed and is stable (column 2, lines 16-20).*" Office Action, p. 4. This is not a correct recitation of the features presently recited in the claims, as discussed above.

Thus, the Examiner has failed make out a *prima facie* rejection, as he has failed to indicate wherein each feature recited in the claims may allegedly be found in the references.

Further deficiencies of Seaman are discussed below.

With regard to claim 76, Miller fails to disclose or suggest at least, "A spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of: creating a new tree after a change using an auxiliary system, wherein the network continues to use only an existing tree while said new tree is being created, when a network

configuration has changed," as presently recited in the claim

Instead, Miller discloses, "*At a topology change, i.e., a reconfiguration, configuration manager 312 distributes information allowing each router 108 to configure a new topology in Table-1. For a period of time, some messages are routed using Table-0 (the old table), while others use Table-1 (the new table). Eventually, the configuration stabilizes to a point where all routers are using the new table for all messages. After this time, it is possible for the configuration manager to initiate a new reconfiguration.*" Miller, para. [0060].

Thus, Miller clearly discloses in the cited passage that there is a period of overlap in which both the old and new table are simultaneously in use.

The present invention, in sharp contrast, generates a new spanning tree after a network configuration change while continuing to operate only the spanning tree that existed before the configuration change, and switches the spanning tree to be used for forwarding to said new spanning tree only after said new spanning tree has been stable. Thus, in the present invention, there is no such overlap period in which the old and new spanning trees are simultaneously in use.

Thus, the cited references fail to disclose or suggest all features of any of the claims.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections of claims 1-3, 11-13, 31-33, 41, 58-59, 61, 72-73, 76-77, 80-81, and 83 over Miller, both alone and in combination with other references.

The Higashiyama Reference

Claims 14, 62, and 78 stand rejected under 35 U.S.C. §102(e) over Higashiyama. Claim 44 stands rejected under 35 U.S.C. §103(a) over Higashiyama. Applicant respectfully

traverses these rejections.

The Examiner alleges that certain features of the claimed invention are disclosed by Higashiyama. Applicant respectfully traverses these rejections. Applicant submits that there are features of the claimed invention which are neither disclosed nor suggested by Higashiyama.

Higashiyama fails to disclose or suggest at least "A node that configures a spanning tree over a network to which a plurality of nodes are connected, comprising means for generating a spanning tree in which each node in the network serves continually as a root node, and forwarding a frame (frames) using a spanning tree in which a destination serves as a root node," as recited in independent claim 14. Claims 44, 62, and 78 recite similar features, and their rejections are traversed on substantially similar basis.

The Examiner alleges that Higashiyama discloses features of the claim at para. [0024]-[0025].

However, the cited passages disclose only, "In an initial state (when a power is supplied), each bridge is a root bridge itself, and it is assumed that a root path cost is 0. Each bridge transmits the initial value of a BPDU to all ports, and at the same time, receives the BPDU transmitted from another bridge from all the ports."

That is, Higashiyama discloses only a root node status <u>during an initial state when no spanning tree has been configured for the network yet</u>.

Further, Higashiyama explicitly discloses that only a single root node is used in the spanning tree. "*Then, each bridge compares the initial value of its own BPDU with that of the BPDU from another bridge received from all ports, and <u>selects root ID from the best BPDU</u>.*" Higashiyama, para. [0033]. "*Further, its own updated BPDU is compared with*

BPDU received from a port other than root port, and it is judged whether or not each port other than root port is a designated bridge itself." Higashiyama, para. [0037].

Thus, Higashiyama fails to disclose or suggest at least this feature of claims 14, 44, 62, and 78.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections of claims 14, 44, 62, and 78 over Higashiyama.

The Shah-Heydari Reference

Claims 74-75 stand rejected under 35 U.S.C. §102(e) over Shah-Heydari. Applicant respectfully traverses this rejection. Applicant submits that there are features of the claimed invention which are neither disclosed nor suggested by Shah-Heydari.

With regard to claim 74, Shah-Heydari fails to disclose or suggest at least "A spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of: <u>making a new node participate in an auxiliary spanning tree only, not in an existing spanning tree, while adding the new node</u>," as recited in the claim.

The Examiner alleges that the claimed invention is disclosed by Shah-Heydari at col. 9, lines 48-56.

Instead, the cited reference discloses only, "*When a new (i.e. auxiliary) node is added to the network, <u>the node is incorporated into the hierarchical protection tree's structure using fundamentally the same process as was used to initially form the tree</u>. The new node initiates the incorporation by initially sending a "request" message to each of its neighbors to cause them to each respond with an invitation message for the new node to become its child. Advantageously, the impact of adding a node in this manner is also limited to the*

network area surrounding the new node." Shah-Heydari, col. 9, lines 48-56.

Further, "*The software 40 comprises a message-driven event handling loop that is executed by the node N1 during the operation of the network 10. The execution of this loop results in both the initial formation of a spanning hierarchical protection tree in the network 10 and the dynamic updating of the tree in the event of a subsequent network topology change.*" Shah-Heydari, col. 6, lines 27-33.

Thus, in Shah-Heydari, the new node is incorporated into the existing hierarchical protection tree's structure. Only the existing tree is updated.

In contrast, the present invention recites that a newly added node is not added to the existing spanning tree.

Therefore, Shah-Heydari fails to disclose or suggest at least this feature of the claim.

In response to the above argument, the Examiner alleges that Shah-Heydari discloses, "*connecting an auxiliary node to a spanning hierarchical protection tree using protection path (capacity) from the auxiliary node to the root node. The protection capacity is reserved for carrying auxiliary data which is different than working capacity that represents bandwidth which is available to carry data during normal network operation (column 5, lines 63-67).*" Office Action, p. 7.

However, the cited passage discloses only, "*Each of the nine links has a working capacity and a protection capacity. As known to those skilled in the art, the working capacity represents bandwidth which is available to carry data during normal network operation. The protection capacity, on the other hand, is bandwidth which is reserved for carrying auxiliary data in exceptional circumstances. For example, in the present embodiment the protection capacity is used to carry re-routed network traffic when a portion of the network has failed.*

It will be appreciated that the total capacity of a link is the sum of the link's working capacity and protection capacity." Shah-Heydari, col. 5, line 62 – col. 6, line 5.

Having different capacities available for use on the same link does not refute Shah-Heydari's clear disclosure that a newly added not is incorporated into the existing tree's structure. Shah-Heydari discloses only a single spanning tree, which is dynamically updated. Shah-Heydari fails to disclose or suggest wherein a newly added node does not participate in an existing spanning tree.

Shah-Heydari fails to teach or suggest that the working capacity and protection capacity comprise distinct and separate spanning trees, as recited in the claim. Shah-Heydari fails to disclose or suggest the feature, "making a new node participate in an auxiliary spanning tree only, not in an existing spanning tree, while adding the new node."

Instead, Shah-Heydari clearly discloses that a new node participates in the existing spanning tree.

With regard to claim 75, Shah-Heydari fails to disclose or suggest at least "A spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the step of: making a connected node to be removed participate in an existing spanning tree only, not in an auxiliary spanning tree, while removing the node," as recited in the claim.

The Examiner alleges that the claimed invention is disclosed by Shah-Heydari. "*... (disconnecting a node for a spanning hierarchical tree by designating a backup parent of the disconnected node in the tree to be a primary parent..., col. 2, lines 16-22).*" Office Action, p. 3.

Instead, the cited reference discloses only, "*In accordance with another aspect of the*

present invention there is provided a method of reconnecting a node disconnected from a spanning hierarchical protection tree in a mesh network to the spanning hierarchical protection tree comprising: designating a backup parent of the disconnected node in the tree to be a primary parent of the disconnected node in the tree; and from the disconnected node, sending an invitation to become a child of the disconnected node in the tree to each adjacent node of the disconnected node that is not the primary parent." Shah-Heydari, col. 2, lines 16-22.

Thus, in the cited reference, Shah-Heydari discloses a method to re-connect a node which is already disconnected. In contrast, the present invention recites a feature of removing a connected node from an existing spanning tree.

In response to the above argument, the Examiner alleges that Shah-Heydari discloses, "*that a node is disconnected from existed spanning tree (not auxiliary) to backup parent. This shows that the node is removed from an existing spanning tree. Examiner believes that the claim, given its broad reasonable interpretation, reads on Shah-Heydari reference.*" Office Action, pp. 7-8.

Shah-Heydari discloses dynamically reconfiguring a single existing spanning tree. Shah-Heydari fails to disclose or suggest an auxiliary spanning tree distinct from the existing spanning tree. Further, the cited passage explicitly discloses a case of a node which is disconnected from an existing spanning tree, in direct contrast to the recited feature of making a node which is connected participate in an existing spanning tree.

If the Examiner is alleging that the backup parent is part of the existing spanning tree and the primary parent is part of the auxiliary spanning tree, then Applicant submits that Shah-Heydari discloses a node that is not a connected node to be removed, but rather is a

connected node to remain connected and the single spanning tree to be dynamically updated.

Therefore, Shah-Heydari fails to disclose or suggest at least this feature of the claim.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claims 74-75 over Shah-Heydari.

The Larsson Reference

Claim 77 stands rejected under 35 U.S.C. §102(e) over Larsson. Applicant respectfully traverses this rejection. Applicant submits that there are features of the claimed invention which are neither disclosed nor suggested by Larsson.

With regard to claim 77, Larsson fails to disclose or suggest at least "A spanning tree configuration method in a network to which a plurality of nodes are connected, comprising the steps of: using a link free bandwidth to calculate a cost of a spanning tree; and selecting a spanning tree based on said cost," as recited in the claim.

The Examiner alleges that the claimed invention is disclosed by Larsson in para. [0024], [0026], [0029], and [0148].

Instead, the cited reference discloses only <u>a free path routing method</u>. Para. [0024] and [0026] describe prior art routing technology (Interference Free Channel – Only Primary Interference Considered), and [0029] describes prior art routing technology (Interference Free Channel – Both Primary and Secondary Interference Considered – Cluster Based). The reference fails to disclose or suggest <u>a spanning tree configuration method</u>. In particular, the reference fails to disclose or suggest using a link free bandwidth to calculate a cost of a spanning tree, and selecting a spanning tree based on said cost, as recited in the claim.

Para. [0148] discloses only, "*<u>FIG. 7 shows a tree rooted at source</u> with ID 5. <u>This</u>*

represents the phase of connection set-up of a first flow when the CFPR algorithm has generated preliminary connections consisting of paths, channels and adapted link parameters. In this particular implementation of the CFPR algorithm, the lowest TS number is always chosen if there exist equally good time slots. This is why slot numbers are assigned in number order from the source node." Larson fails to disclose or suggest that the tree referenced in para. [0148] is a spanning tree; instead, Fig. 7 clearly depicts the tree rooted at source ID '5' is not spanning.

Thus, Larsson fails to disclose or suggest a spanning tree configuration method.

In response to the above argument, the Examiner alleges that Larsson discloses, "*in para. [0186] that "routing unit 116 with a new connection parameters, and forwarding the connection parameters to the involved network nodes using such as spanning-tree forwarding or any other conventional mechanism.*" Office Action, p. 8.

However, the cited passage actually discloses only, "*On the other band, if the CFPR algorithm produces a set of feasible connection parameters, the requested connection is established. This is normally accomplished by updating the routing table 115 in the routing unit 116 with the new connection parameters, and forwarding the connection parameters to the involved network nodes using 'flooding', spanning-tree forwarding, source routing or any other conventional mechanism. This primarily concerns a centralized implementation.*" Larson, para. [0186].

Further, Larsson clearly discloses, "*An option for multipath routing is also presented in the reference and is easily achieved since the destination has all information of all available paths from source to destination,*" and, "*It is the task of the destination node to determine the flow network from the source that fulfils the bandwidth requirement. Although*

such a solution has the potential to provide a close to optimal route, interference being neglected, it also put immense computational burden on the destination node." Larsson, para. [0026].

Thus, Larsson discloses using bandwidth to calculate a collision free path within a cluster. Larsson lists spanning-tree forwarding among several other conventional mechanisms as a means of forwarding connection parameters. However, this assumes an existing spanning tree. Larson fails to disclose or suggest any method of configuring such a spanning tree. Larsson teaches away from an approach that would calculate costs of a spanning tree over all nodes instead of cluster-based topology ("*it also put immense computational burden on the destination node*.")

Therefore, Larsson fails to disclose or suggest at least this feature of the claims.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claim 77 over Larsson.

The Seaman Reference

Claims 1-2, 31-32, 58, 72, and 80-83 stand rejected under 35 U.S.C. §103(a) over Miller in view of Seaman. Claims 3, 11-13, 33, 41, 59, 61, 73, and 77 stand rejected under 35 U.S.C. §103(a) over Miller in view of Seaman, and further in view of Sistanizadeh and Larsson. Applicant respectfully traverses these rejections.

Deficiencies of Miller are discussed above.

The Examiner alleges that certain features of the claimed invention are disclosed by Seaman. Applicant respectfully traverses these rejections.

Applicant submits that there are features of the claimed invention which are neither

disclosed nor suggested by Seaman.

Miller fails to disclose or suggest at least "A node that configures a spanning tree over a network to which a plurality of nodes are connected, comprising: generating a new spanning tree after a network configuration change while continuing to operate only the spanning tree that existed before the configuration change, and switching the spanning tree to be used for forwarding to said new spanning tree only after said new spanning tree has been stable," as recited in independent claim 1. Seaman fails to overcome the deficiencies of Miller.

The Examiner admits that, "*Miller does not disclose stabilizing first the new spanning tree to be used for forwarding.*" Office Action, p. 4. The Examiner relies on Seaman to overcome the deficiencies of Miller with regard to claims 1-2, 31-32, 58, 72, and 80-83.

However, the Examiner fails to allege that any reference discloses or suggests the features recited in the claims. In particular, the Examiner fails to allege that any reference teaches or suggest the features "generating a new spanning tree after a network configuration change while continuing to operate only the spanning tree that existed before the configuration change" and "switching the spanning tree to be used for forwarding to said new spanning tree only after said new spanning tree has been stable." Independent claims 31, 58, 72, and 80 recite similar features. Applicant traverses the rejections of claims 2, 31-32, 58, 72, and 80-83 on substantially similar basis.

Instead, the Examiner alleges only that, "*Miller does not disclose stabilizing first the new spanning tree to be used for forwarding. Seaman teaches that frame is forwarding through any bridge when spanning tree information has been completely distributed and is stable (column 2, lines 16-20).*" Office Action, p. 4. This is not a correct description of the

features recited in the claims, as discussed above.

Thus, the Examiner has failed make out a *prima facie* rejection, as he has failed to indicate wherein each feature recited in the claims may allegedly be found in the references.

Further, the cited reference discloses only, "*The frame forwarding path through any bridge is thus between its root port and designated ports. When spanning tree information has been completely distributed and is stable, this connectivity will connect all of the LANs in a loop-free tree.*" Seaman, col. 2, lines 16-20.

However, Seaman discloses only that certain characteristics (a loop-free tree) will be present after the spanning tree is completely distributed and become stable. Seaman fails to teach or suggest operating only the pre-existing spanning tree while generating the new spanning tree, as recited in the claims. Seaman further fails to teach or suggest switching to the new spanning tree only after the new spanning tree has become stable.

Thus Seaman fails to disclose or suggest the recited features.

Thus, Applicant respectfully requests the Examiner to reconsider and withdraw all rejections which rely on Seaman.

CONCLUSION

In view of the foregoing, Applicant submits that claims 1-3, 11-14, 31-33, 41-44, 58-59, 61-62, 72-78, and 80-83, all the claims presently undergoing examination in the application, are patentably distinct over the prior art of record and are allowable, and that the application is in condition for allowance. Such action would be appreciated.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary for allowance in a telephonic or personal interview.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. The Commissioner is authorized to charge any deficiency in fees, including extension of time fees, or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 24 February 2009

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